

Summary
URS 651-8

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Summary Report
of
DEBRIS MODEL RESEARCH WITH BUILDING DAMAGE,
FIRE SPREAD, AND DEBRIS PREDICTIONS FOR FIVE-CITY STUDY

Final Report
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| <u>Type</u> | <u>Description</u> |
|-------------|--|
| 1 | conifer - cultivated |
| 2 | conifer - unimproved - unfavorable growing conditions |
| 3 | conifer - unimproved - favorable growing conditions |
| 4 | deciduous - temperature zone (like live oak or cloud forest - above 3,500 ft elevations) |
| 4a | type 4 - defoliated |
| 5 | deciduous - rainforest - very dense |
| 5a | type 5 - defoliated |
| 6 | deciduous - temperature zone scattered - also orchards |
| 6a | type 6 - defoliated |
| 7 | rubber plantation - very little underbrush and dense overlapping crowns |

Vulnerability of each of these categories to air blast is presented in the form of isodamage HOB charts using light, moderate, severe, and total as damage descriptors. These descriptors are further defined in terms of percent crown breakage or length of stem down per acre, and percent blowdown as tabulated below:

| | <u>Conifer</u> | <u>Deciduous</u> |
|----------|----------------------------|----------------------------|
| Light | Not used | 50% crown breakage |
| Moderate | 1,500 ft of stem down/acre | 750 ft of stem down/acre |
| Severe | 9,000 ft of stem down/acre | 7,500 ft of stem down/acre |
| Total | Over 90% blowdown | Over 90% blowdown |

It should be noted that these descriptors do not pertain to any one particular average tree but indicate damage to a population of trees. This agrees with observations of damage to forested areas by wind storms as well as from nuclear

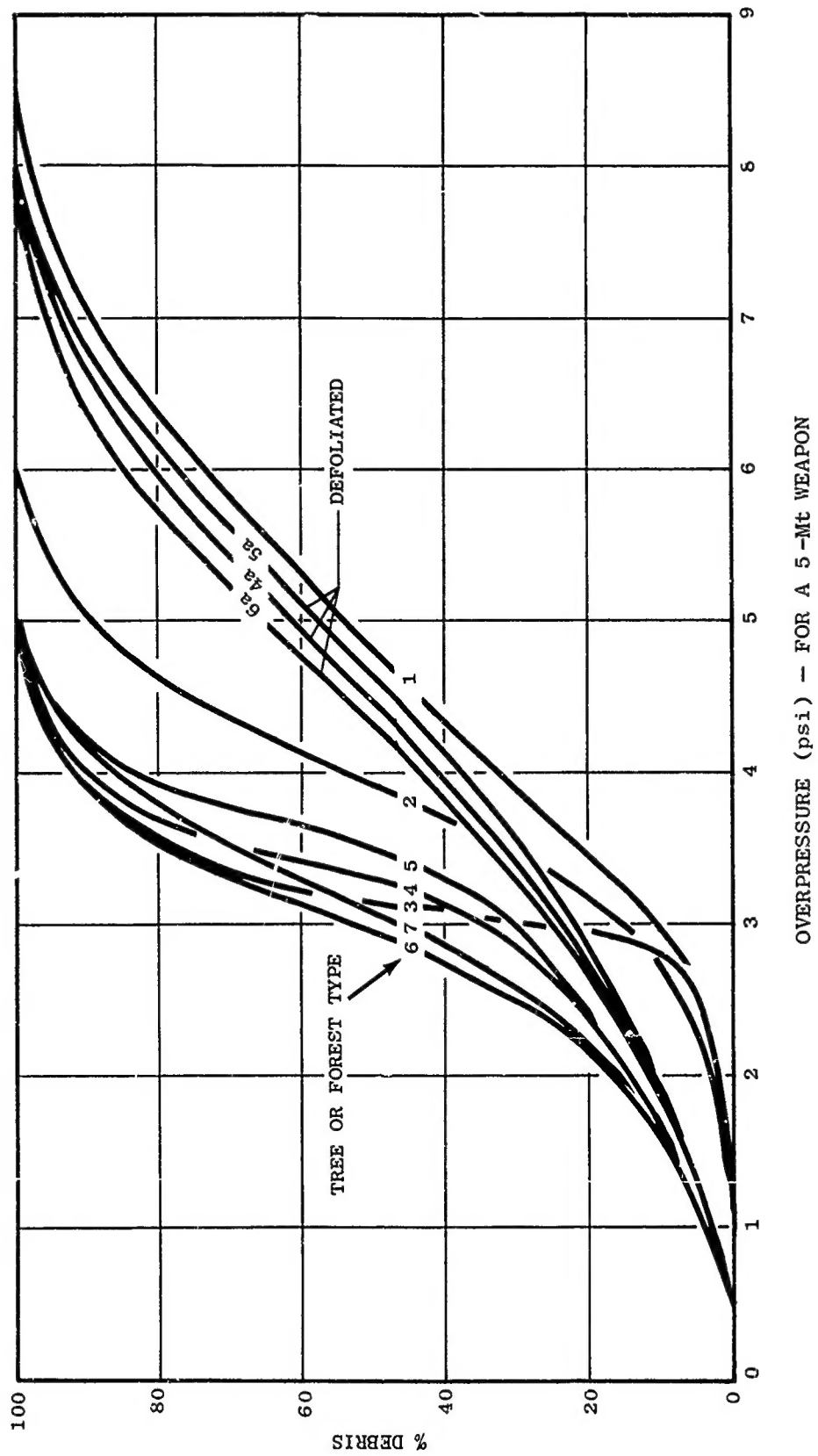


Fig. 20. Tree Debris Chart